



ICT Berufsbildung
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General Information

Version 1.1

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1 Introduction

Advice: This document describes some general information that is important for the participation at ICTskills 2023 | Skill 09

You will get the task to develop a desktop application consisting of various windows. The application can be implemented using any technology stack such as .NET, Java, Electron, Flutter, etc. As long as the artifact you hand in after each session is expected to be a stand alone desktop application. The backend for the application is either implemented in MSSQL or MYSQL database.

You will get a time budget of around 7.5 hours to complete as many tasks as possible. To provide all participants with the same starting situation, you get a virtual machine with a pre installed Windows 10 for the competition with all the necessary tools to complete the task preinstalled.

Important: If you find yourself in the situation that there is not enough time to complete all remaining tasks, skip or simplify (e.g. diverge from the Mockup, etc.) the implementation of certain tasks in favor for others, so you can show off other parts of your implementation. In any case, it is expected that you deliver a smoothly running application at the end of each session to facilitate the assessment of your work. The major amount of points will be awarded among correctly working functionalities.

2 Bring your own device

Competitors will use their own devices for the championship. You may bring the following devices to the competition: computer/laptop, mouse, keyboard, screens and docking station. The following infrastructure will be provided:

- Table & Chair
- Power strip (4 Sockets)
- WLAN access to the internet
- USB-stick (USB-A) for handing in the results

Please download and test the virtual machine [1] on your device before the competition day. By downloading this VM, you are agreeing to following rules:

- The VM is to be used exclusively for the competition.
- Any distribution of the VM is strictly forbidden.
- After finishing the competition, the VM including the compressed archive and any resulting files must be deleted.

On your host device, one of the following software products is required to run the virtual machine:

- VMware Workstation Player Version 17 or higher (free for non-commercial use)
- VMware Fusion Player Version 13 or higher (free for non-commercial use)

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Please check the readme-file on the VM's desktop. You may customize the VM and install other software. But keep in mind that we will use the original VM for evaluation. If you see any crucial software package missing from the VM, please request it to be included in the VM by contacting any of the head experts of your skill. Such claims may be brought to attention no later than 10. September 2023).

The VM will come with the following software pre-installed in a recent version:

- Microsoft Windows 10 Pro
- git command line client
- maven
- IntelliJ Community Edition
- Visual Studio Community Edition
- MySQL Community Edition
- OpenJDK
- JavaFX SDK
- Gluon Scene Builder
- Microsoft SQL Server Express
- SQL Server Management Studio

3 Rules

Being a BYOD contest, the competition is subject to an **Open-Book** ruling. Allowing Open-Book however gives the competition management less control over the rules set. Therefore, your supervisor has been instructed to pay attention actively that the rules are strictly obeyed.

Please comply with the following rules throughout the competition:

- The only devices for the competition allowed are your **computer/laptop** including **power supply, mouse, keyboard, screens** and **docking station**. Other devices like smartphones must be put away. Your supervisor may allow exceptions to this rule. Headphones during the competition are allowed.
- Any form of **communication** or any **cooperation** with other people except your supervisor is strictly prohibited.
- Any form of **disturbance** to the competition or to other competitors is prohibited.
- Any form of **providing/leaking info** about the competition *during* the competition is prohibited.
- The usage of generative AI is explicitly allowed.

Failing to comply with above rules may result in the disqualification from the competition. In order to illustrate the spirit rules outlined above, Table 1 provides a non conclusive list of examples of what is allowed or prohibited.

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Table 1 Examples of rule interpretations (non conclusive list)

Allowed	Prohibited
Working outside the provided VM on your own device	Allow someone to connect to your computer to help you. (e. g. TeamViewer, Visual Studio Live Share, etc.)
Use existing resources on the internet including stackoverflow, github	Requesting help from other people (for example, do not create a new question on stackoverflow, and don't use chat apps to communicate during the competition.
Use Google to find a solution to your problem	Transmitting the project to someone else
Using ChatGPT or GitHub CoPilot or something similar to generate code snippets.	Phone calls
Usage of downloaded libraries / code (for example maven or Nuget). Please adhere to the licenses.	
Use a book or notes you brought with you	
Using headphones	

4 Schedule

Please arrive by 07:30 AM at SIX ConventionPoint in Zurich. The assignment will be split into two parts (session 1 and session 2). You may only start with the second part, after handing in your results for the first part. Yet, you are free to assign the implementation slots to the sessions at your discretion.

Note: Evaluation for session 1 starts after handing in your results for session 1. The two sessions will be evaluated independently. Hence fixing bugs for requirements of the previous session will not yield you any additional points.

The following time schedule is planned for the contest:

- 07:30 – 08:00 Arrival, preparation of workplace (BYOD)
- 08:00 – 08:30 Welcome briefing
- 08:30 – 11:30 Implementation slot 1
- 11:30 – 12:30 Lunch break
- 12:30 – 17:00 Implementation slot 2
- 17:00 – 17:45 Conclusion & photo session

5 Evaluation

The evaluation will be done using the compiled application only. Please make sure the **end product** runs on the **original** virtual machine provided. The application should be executable easily (e.g. through double click on a ***.exe**, ***.bat**, ***.ps1** etc.). If this is not the case, please add a comment that describes how to start the application.

Note: No extra effort, apart from your documentation, will be made to get the application running on the export's VM. Ideally the application is "portable" (i.e. extract, double click, run).

Each task is rated by testing the implementation of the required functionality. In addition, the following criteria apply to all tasks and must match your solution:

- No errors should occur / proper exception handling is implemented
- The database schema should fulfil the following requirements
 - Each table has a primary key
 - Each field uses a suitable datatype
 - Foreign keys are defined for all relationships
 - The database is in 3rd normal form

6 Project files

All files necessary to start with the project will be provided using a USB stick. This USB stick will also be used to hand in results.

7 Handing in the results

All deliverables of a session (**executable files**, **source code**, **database**) must be submitted in a backup file, which is created by the submission tool. A link to the submission tool is placed on the desktop of the provided virtual machine. Only the contents of the backup file will be considered for the evaluation of the work. Figure 1 shows a screenshot of the submission tool's UI.

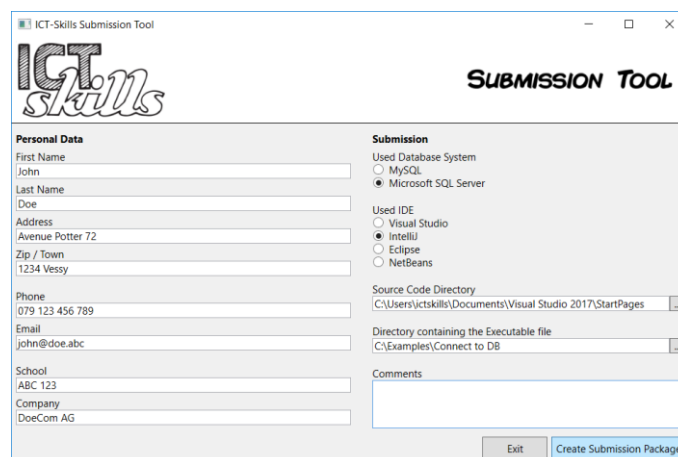


Figure 1: UI of the submission tool

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For handing in a session, please create the backup using the submission tool, copy the file to the provided USB stick provided at the beginning of the contest and raise your hand. A supervisor will collect the USB stick and provide you with the necessary information to access the next session.

Please follow these instructions to create a submission package:

1. Please fill in your personal data and select the database system used by your application.
2. Choose the directory in which the complete source code is saved.
3. Choose the directory in which the executable file and its dependencies are saved.
4. (Optional) Leave a comment, if you need to give us additional information about your work or if you want to leave general feedback about the competition.
5. Click the “Create Submission Package” button. The submission tool will save the submission package on the desktop. The file will be named according to the following schema: **NAME_T9_DB_IDE_yyMMddHHmmss.zip**.

Please have a submission package for the last session ready at 17:00 when the competition ends. If you create the package after the deadline, points may be reduced.

8 List of figures

Figure 1: UI of the submission tool 6

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10 References

- [1] ICT Berufsbildung, «Reference Virtual Machine,» 2023. [Online]. Available: <https://bit.ly/ICTskills2023-Skill09>.